

## NEW CLAIMS

19. A telecommunications system, comprising: one or more nodes; a plurality of telephone exchanges, two of which are arranged to communicate with each other via the one or more nodes; wherein communication via the one or more nodes is in a form of packets; wherein the one or more nodes comprise routers; and wherein communication via one or more of the routers uses internet protocol (IP).

20. The telecommunications system of claim 19, wherein at least some of the telephone exchanges arranged to communicate with each other via the one or more nodes are trunk exchanges.

BH 21. The telecommunications system of claim 19, wherein at least some of the telephone exchanges to communicate with each other via the one or more nodes are local exchanges.

22. The telecommunications system of claim 19, wherein the communication includes telephone calls; and wherein all call handling in the system takes place outside of the one or more nodes.

23. The telecommunications system of claim 20, wherein each of the trunk exchanges has a direct link to each of the one or more nodes.

24. The telecommunications system of claim 21, wherein at least some of the telephone exchanges are trunk exchanges; and wherein communication between the local exchanges and the trunk exchanges uses asynchronous transfer mode (ATM).

25. The telecommunications system of claim 19, wherein each of the two or more telephone exchanges comprises routing data relating to communication with all other exchanges in the telecommunications system; and wherein the routing data is partially or wholly enabled.

26. The telecommunications system of claim 25, wherein only that part of the routing data in a particular exchange relating to communication between that exchange and other exchanges with which that exchange is arranged to communicate via the one or more nodes is enabled.

27. The telecommunications system of claim 19, comprising means for carrying voice traffic as asynchronous transfer mode (ATM) Adaptation Layer 1 (AAL1) or ATM Adaptation Layer 2 (AAL2).

28. The telecommunications system of claim 19, comprising means for carrying voice traffic as voice over IP (VoIP).

29. An adapter for providing telephone exchanges in a telecommunications system having one or more nodes that have routers, with a means of intercommunication of traffic via the one or more nodes, one or more of the routers using internet protocol (IP) for the traffic, the adapter comprising: means for converting the traffic between packetized and non-packetized form.

30. The adapter of claim 29, comprising means for providing interworking between synchronous transfer mode (STM) and IP domains.

31. The adapter of claim 30, comprising means for detection of modem traffic.

32. The adapter of claim 31, comprising means for converting a detected modem signal to baseband data for packetization into IP.

33. The adapter of claim 29, wherein the traffic to be packetized comprises public switched telephone network (PSTN) circuits, and wherein the adapter is arranged to only packetize active PSTN circuits.

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34. The adapter of claim 33, and means to communicate information on which PSTN circuits are not packetized using spare capacity within an IP logical route.

35. The adapter of claim 29, comprising means for compression of voice traffic.

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